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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,742	06/20/2001	Zhan He	1101.011	5585

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EXAMINER

PERALTA, GINETTE

ART UNIT PAPER NUMBER

2814

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,742

Applicant(s)

HE ET AL.

Examiner

Ginette Peralta

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 and 38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31, 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6/01 . 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Broer et al. (U. S. Pat. 5,825,444) in view of Noguchi et al. (U. S. Pat. 6,521,359 B1).

Broer et al. discloses a backlight for a display device that comprises a fluorescent lamp and a cholesteric liquid crystal polarizing device.

Broer et al. discloses the claimed invention with the exception that the fluorescent lamp is not an organic electroluminescent device.

Noguchi et al. discloses an organic electroluminescent device that may be used as a fluorescent lamp and as light emitting material for backlights and displays, wherein the polymeric fluorescent substance is shown for the disclosed intended purpose that their production is less costly, the mechanical strength of the resulting film is high, the device emits a strong fluorescence, and can be driven at low voltage at high efficiency.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the polymeric fluorescent lamp taught by Noguchi et al. in the invention of Broer et al. for the disclosed intended purposes of reducing the

production costs while using a material having a high mechanical strength, and the device being able to emit a strong fluorescence and to be driven at low voltage at high efficiency.

Broer et al. as modified by Noguchi et al., further teaches a liquid crystal display comprising the backlight device.

Broer et al. as modified by Noguchi et al. further teaches that the organic electroluminescent device comprises an organic electroluminescent material layer superposed between a cathode and an anode layer, and that one or both of the materials of the cathode and anode are transparent.

3. Claims 8-17, 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Broer et al. in view of Noguchi et al. as applied to claims 1-7 and 38 above, and further in view of Faris (U. S. Pat. 6,188,460 B1).

Broer et al. as modified by Noguchi et al. further teaches a diffuser element disposed between the anode layer and the cholesteric liquid crystal polarizing device, and a quarter-wave retarder disposed on an output side of the cholesteric liquid crystal polarizing device. Noguchi et al. further teaches that the cholesteric liquid crystal polarizing device comprises multiple cholesteric liquid crystal polarizing layers.

Broer et al. as modified by Noguchi et al. discloses the claimed invention with the exception of the pixel regions, the repeating array of red pixels, green pixels, and blue pixels, and the polarizing device being a narrowband polarizing device.

Faris discloses a liquid crystal display device that comprises a backlight device and a cholesteric liquid crystal polarizing layer, wherein the polarizing device could be a broadband polarizing device or a narrowband polarizing device wherein both alternatives are taught for the disclosed intended purpose of providing alternate embodiments for a polarizing reflective spectral filter element where the polarizer are used for reflecting without absorption back along the projection axis into the backlighting structure, wherein the structure further comprises a plurality of pixel regions, and a repeating array of red pixels, green pixels and blue pixels which reflect circularly polarized red, green and blue light, respectively.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use either a broadband polarizer or a narrowband polarizer as Faris discloses that these two polarizers are alternatives in a backlighting structure and to have a plurality of pixel regions and an array of red pixels, green pixels and blue pixels which reflect circularly polarized red, green, and blue light, wherein these characteristics are taught for the disclosed intended purpose of forming a structure that is used for reflecting without absorption back along the projection axis into the backlighting structure and thus employing systemic light recycling.

Broer et al. as modified by Noguchi et al. and Faris discloses that the cholesteric liquid crystal polarizing device comprises multiple cholesteric liquid crystal polarizing layers, the backlight further comprising a diffuser element.

4. Claims 18, 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Broer et al. in view of Noguchi et al. and Faris as applied to claims 1-17 and 38 above, and further in view of Jiang et al. (US Pat. Pub. 2002/0075434 A1).

Broer et al. discloses a backlight for a display device that comprises a fluorescent lamp and a cholesteric liquid crystal polarizing device.

Broer et al. discloses the claimed invention with the exception that the fluorescent lamp is not an organic electroluminescent device, and the structure further comprising a quarter-wave retarder.

Noguchi et al. discloses an organic electroluminescent device that may be used as a fluorescent lamp and as light emitting material for backlights and displays, wherein the polymeric fluorescent substance is shown for the disclosed intended purpose that their production is less costly, the mechanical strength of the resulting film is high, the device emits a strong fluorescence, and can be driven at low voltage at high efficiency.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the polymeric fluorescent lamp taught by Noguchi et al. in the invention of Broer et al. for the disclosed intended purposes of reducing the production costs while using a material having a high mechanical strength, and the device being able to emit a strong fluorescence and to be driven at low voltage at high efficiency.

Broer et al. as modified by Noguchi et al., further teaches a liquid crystal display comprising the backlight device.

Broer et al. as modified by Noguchi et al. further teaches that the organic electroluminescent device comprises an organic electroluminescent material layer superposed between a cathode and an anode layer, and that one or both of the materials of the cathode and anode are transparent.

Jiang et al. discloses a liquid crystal display structure that comprises a backlight device which includes a cholesteric liquid crystal display element and a quarter-wave retarder, wherein the quarter-wave retarder is used for the disclosed intended purpose of rotating the polarization direction of the linearly polarized light and allowing for the transmission of the linearly polarized light.

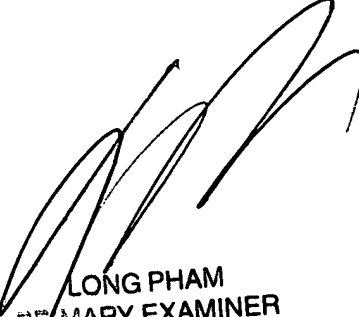
Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a quarter-wave retarder in the structure of Broer et al. as modified by Noguchi et al. for the disclosed intended purpose of rotating the polarization direction of the linearly polarized light and allowing for the transmission of the linearly polarized light.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginette Peralta whose telephone number is (703) 305-7722. The examiner can normally be reached on Monday to Friday 8:00 AM- 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

GP



LONG PHAM
PRIMARY EXAMINER